

Janitors and cleaners work in nearly every type of establishment and held about 97 percent of all jobs. About 23 percent worked for firms supplying building maintenance services on a contract basis; 16 percent in educational institutions; and 14 percent in hotels. Other employers included hospitals, restaurants, religious institutions, manufacturing firms, government agencies, and operators of apartment buildings, office buildings, and other types of real estate.

Institutional cleaning supervisors held about 87,000 jobs. About 37 percent were employed in hotels; 23 percent in firms supplying building maintenance services on a contract basis; 12 percent in hospitals; and 12 percent in nursing and personal care facilities. Other employers included educational institutions, residential care establishments, and amusement and recreation facilities.

Although cleaning jobs can be found in all cities and towns, most are located in highly populated areas where there are many office buildings, schools, apartment houses, and hospitals.

Training, Other Qualifications, and Advancement

No special education is required for most janitorial or cleaning jobs, but beginners should know simple arithmetic and be able to follow instructions. High school shop courses are helpful for jobs involving repair work.

Most janitors and cleaners learn their skills on the job. Usually, beginners work with an experienced cleaner, doing routine cleaning. As they gain more experience, they are assigned more complicated tasks.

In some cities, programs run by unions, government agencies, or employers teach janitorial skills. Students learn how to clean buildings thoroughly and efficiently, how to select and safely use various cleansing agents, and how to operate and maintain machines, such as wet and dry vacuums, buffers, and polishers. Students learn to plan their work, to follow safety and health regulations, to interact positively with people in the buildings they clean, and to work without supervision. Instruction in minor electrical, plumbing, and other repairs may also be given. Those who come in contact with the public should have good communication skills. Employers usually look for dependable, hard-working individuals who are in good health, follow directions well, and get along with other people.

Janitors and cleaners usually find work by answering newspaper advertisements, applying directly to organizations where they would like to work, contacting local labor unions, or contacting State employment service offices.

Advancement opportunities for janitorial workers are usually limited in organizations where they are the only maintenance worker. Where there is a large maintenance staff, however, janitors can be promoted to supervisor and to area supervisor or manager. A high school diploma improves the chances for advancement. Some janitors set up their own maintenance business.

Supervisors usually move up through the ranks. In many establishments, they are required to take some in-service training to improve their housekeeping techniques and procedures, and to enhance their supervisory skills.

A small number of cleaning supervisors and managers are members of the International Executive Housekeepers Association (IEHA). IEHA offers two kinds of certification programs to cleaning supervisors and managers—Certified Executive Housekeeper (CEH) and Registered Executive Housekeeper (REH). The CEH designation is offered to those with a high school education, while the REH designation is offered to those who have a 4-year college degree. Both designations are earned by attending courses and passing exams, and must be renewed every 2 years to ensure that workers keep abreast of new cleaning methods. Those with the REH designation usually oversee the cleaning services of hotels, hospitals, casinos, and other large institutions that rely on well-trained experts for their cleaning needs.

Job Outlook

Job openings should be plentiful for janitors and cleaners primarily because of the need to replace those who leave this very large occupation each year. Limited formal education and training requirements,

low pay, and numerous part-time and temporary jobs should contribute to these replacement needs.

Many job opportunities will stem from job growth in addition to the need to replace workers who transfer to other occupations or leave the labor force. Employment of janitors and cleaners and institutional cleaning supervisors is expected to grow about as fast as average for all occupations through the year 2008. To clean the increasing number of office complexes, apartment houses, schools, factories, hospitals, and other buildings, more workers will be assigned to teams with more efficient cleaning equipment and supplies. As many firms reduce costs by hiring independent contractors, businesses providing janitorial and cleaning services on a contract basis are expected to be one of the faster growing employers of these workers.

Earnings

Median annual earnings of janitors and cleaners, including maids and housekeeping cleaners, were \$15,340 in 1998. The middle 50 percent earned between \$12,560 and \$19,110. The lowest 10 percent earned less than \$11,620 and the highest 10 percent earned more than \$25,060. Median annual earnings in the industries employing the largest numbers of janitors and cleaners, including maids and housekeeping cleaners, in 1997 are shown below:

Federal Government	\$27,900
Hospitals	16,800
Hotels and motels	15,400
Nursing and personal care facilities	15,200
Services to buildings	13,900

Median annual earnings of institutional cleaning supervisors were \$19,600 in 1998. The middle 50 percent earned between \$15,580 and \$24,850. The lowest 10 percent earned less than \$13,150 and the highest 10 percent earned more than \$31,930. Median annual earnings in the industries employing the largest numbers of institutional cleaning supervisors in 1997 are shown below:

Hospitals	\$22,400
Nursing and personal care facilities	20,200
Services to buildings	18,500
Hotels and motels	17,200

Related Occupations

Workers who specialize in one of the many job functions of janitors and cleaners include refuse collectors, floor waxers, street sweepers, window cleaners, gardeners, boiler tenders, pest controllers, and general maintenance repairers. Private household workers also have job duties similar to janitors and cleaners.

Sources of Additional Information

Information about janitorial jobs may be obtained from State employment service offices.

For information on certification in executive housekeeping, contact:
 International Executive Housekeepers Association, Inc., 1001 Eastwind Dr., Suite 301, Westerville, OH 43081-3361.
 Internet: <http://www.ieha.org>

Landscaping, Groundskeeping, Nursery, Greenhouse, and Lawn Service Occupations

(O*NET 15017A, 15031, 15032, 72002D, 72002E, 79005, 79030B, 79033, 79036, and 79041)

Significant Points

- There are seldom minimum educational requirements for entry-level jobs and most workers learn through short-term on-the-job training.

- Opportunities should be excellent due to significant job turnover; but earnings for laborer jobs are low.

Nature of the Work

Attractively designed, healthy, and well-maintained lawns, gardens, and grounds create a positive first impression, establish a peaceful mood, and increase property values. Workers in landscaping, groundskeeping, nursery, greenhouse, and lawn service occupations are responsible for the variety of tasks necessary to achieve a pleasant and functional outdoor environment. They also care for indoor gardens and plantings in commercial and public facilities, such as malls, hotels, and botanical gardens.

Nursery and greenhouse workers help to cultivate the plants used to beautify landscapes. They prepare nursery acreage or greenhouse beds for planting; water, weed, and spray trees, shrubs, and plants; cut, roll, and stack sod; stake trees; tie, wrap, and pack flowers, plants, shrubs, and trees to fill orders; and dig up or move field-grown and containerized shrubs and trees. *Nursery and greenhouse managers* make decisions about the type and quantity of horticultural plants to be grown; select and purchase seed, fertilizers, and disease control chemicals; hire laborers and direct and coordinate their activities; manage recordkeeping, accounting, and marketing activities; and generally oversee operations.

Landscape contractors usually follow the designs developed by a landscape architect. They coordinate and oversee the installation of trees, flowers, shrubs, sod, benches, and other ornamental features. They also implement construction plans at the site, which may involve grading the property, installing lighting or sprinkler systems, and building walkways, terraces, patios, decks, and fountains. They must determine the type and amount of labor, equipment, and materials needed to complete a project, and inspect work at various stages of completion. Some work exclusively on large properties, such as office buildings and shopping malls, whereas others also provide these services to residential customers.

Landscaping laborers physically install and maintain landscaped areas. In addition to initially transporting and planting new vegetation, they also transplant, mulch, fertilize, water, and prune flowering plants, trees, and shrubs, and mow and water lawns. *Supervisors* generally perform the same work but are also responsible for directing the landscaping crew's activities, adhering to schedules, and keeping track of labor costs. Some landscaping laborers, called *pruners*, specialize in pruning, trimming, and shaping ornamental trees and shrubs. Others, called *lawn service workers*, specialize in maintaining lawns and shrubs for a fee. A growing number of residential and commercial clients, such as managers of office buildings, shopping malls, multi-unit residential buildings, and hotels and motels favor this full-service landscape maintenance. These workers perform a range of duties on a regular basis during the growing season, including mowing, edging, trimming, fertilizing, dethatching, and mulching. Those working for chemical lawn service firms are more specialized. They inspect lawns for problems and apply fertilizers, herbicides, pesticides, and other chemicals to stimulate growth and prevent or control weed, disease, or insect infestation, as well as practice integrated pest management techniques. *Lawn service managers* oversee operations, negotiate fees, schedule jobs, and hire and train new workers.

Groundskeeping laborers, also called groundskeepers or grounds maintenance personnel, maintain a variety of facilities including athletic fields, golf courses, cemeteries, university campuses, and parks. Many of their duties are similar to those of landscaping laborers. But, they also rake and mulch leaves, clear snow from walkways and parking lots, employ irrigation methods to adjust the amount of water consumption and prevent waste, and apply pesticides. They see to the proper upkeep and repair of sidewalks, parking lots, groundskeeping equipment, pools, fountains, fences, planters, and benches. *Grounds managers* may participate in many of the same tasks as maintenance personnel but typically have more extensive knowledge in horticulture, turf management, ornamental plants, land-

scape design and construction, pest management, irrigation, and erosion control. In addition, grounds managers have supervisory responsibilities and must manage and train personnel, draw up work contracts, efficiently allocate labor and financial resources, and engage in public relations activities.

Groundskeepers who care for athletic fields keep natural and artificial turf fields in top condition and mark out boundaries and paint turf with team logos and names before events. Groundskeepers must make sure the underlying soil on natural turf fields has the required composition to allow proper drainage and to support the appropriate grasses used on the field. They regularly mow, water, fertilize, and aerate the fields. In addition, groundskeepers apply chemicals and fungicides to control weeds, kill pests, and prevent diseases. Groundskeepers also vacuum and disinfect synthetic turf after use in order to prevent growth of harmful bacteria. They periodically remove the turf and replace the cushioning pad.

Workers who maintain golf courses work under the direction of *golf course superintendents* and are called *greenskeepers*. Greenskeepers do many of the same things other groundskeepers do. In addition, greenskeepers periodically relocate the holes on putting greens to eliminate uneven wear of the turf and add interest and challenge to the game. Greenskeepers also keep canopies, benches, ball washers, and tee markers repaired and freshly painted.

Some groundskeepers specialize in caring for cemeteries and memorial gardens. They dig graves to specified depth, generally using a backhoe. They may place concrete slabs on the bottom and around the sides of the grave to line it for greater support. When readying a site for the burial ceremony, they position the casket-lowering device over the grave, cover the immediate area with an artificial grass carpet, erect a canopy, and arrange folding chairs to accommodate mourners. They regularly mow grass, apply fertilizers and other chemicals, prune shrubs and trees, plant flowers, and remove debris from graves. They also must periodically build the ground up around new gravesites to compensate for settling.

Groundskeepers in parks and recreation facilities care for lawns, trees, and shrubs, maintain athletic fields and playgrounds, clean buildings, and keep parking lots, picnic areas, and other public spaces free of litter. They may also remove snow and ice from roads and walkways, erect and dismantle snow fences, and maintain swimming pools. These workers inspect buildings and equipment, make needed repairs, and keep everything freshly painted.

Landscaping, groundskeeping, and lawn service workers use handtools such as shovels, rakes, pruning saws, saws, hedge and brush trimmers, and axes, as well as power lawnmowers, chain saws, snow blowers, and electric clippers. Some use equipment such as tractors and twin-axle vehicles. Park, school, cemetery, and golf course groundskeepers may use sod cutters to harvest sod that will be replanted elsewhere. Athletic



Nursery workers must keep track of all plants on the premises.

turf groundskeepers use vacuums and other devices to remove water from athletic fields. In addition, some workers in large operations use spraying and dusting equipment. Landscape contractors and those in managerial positions increasingly use computers to develop plans and blueprints, to estimate and track project costs, and to maintain payroll and personnel information.

Working Conditions

Many of the jobs for landscaping, groundskeeping, and nursery workers are seasonal, mainly in the spring, summer, and fall when most planting, mowing and trimming, and cleanup are necessary. The work, most of which is performed outdoors in all kinds of weather, can be physically demanding and repetitive, involving much bending, lifting, and shoveling. Landscaping and groundskeeping workers may be under pressure to get the job completed, especially when preparing for scheduled events, such as athletic competitions or burials.

Those who work with pesticides, fertilizers, and other chemicals, as well as potentially dangerous equipment and tools such as power lawnmowers, chain saws, and power clippers, must exercise safety precautions. Workers who use motorized equipment must take care to protect against hearing damage.

Employment

Landscaping, groundskeeping, nursery, greenhouse, and lawn service workers held about 1,285,000 jobs in 1998. Employment was distributed as follows:

Landscaping and groundskeeping laborers	1,130,000
Lawn service managers	86,000
Pruners	45,000
Sprayers and applicators	19,000
Nursery and greenhouse managers	5,000

About one-third of wage and salaried workers were employed in companies providing landscape and horticultural services. Others worked for firms operating and building real estate, amusement and recreation facilities such as golf courses and race tracks, and retail nurseries and garden stores. Some were employed by local governments, installing and maintaining landscaping for parks, schools, hospitals, and other public facilities.

Almost 2 out of every 10 landscaping, groundskeeping, nursery, greenhouse, and lawn service workers were self-employed, providing landscape maintenance directly to customers on a contract basis. About 1 of every 6 worked part time, many of whom were school age.

Training, Other Qualifications, and Advancement

There usually are no minimum educational requirements for entry-level laborer positions in landscaping, groundskeeping, nursery, greenhouse, and lawn service occupations. In 1998, more than 4 in 10 workers did not have a high school diploma, although this diploma is necessary for some jobs. Short-term on-the-job training usually is sufficient to teach new hires how to operate equipment such as mowers, trimmers, leaf blowers, and small tractors, and follow correct safety procedures. Entry-level workers must be able to follow directions and learn proper planting procedures. If driving is an essential part of a job, employers look for applicants with a good driving record and some experience driving a truck. Workers who deal directly with customers must get along well with people. Employers also look for responsible, self-motivated individuals, because many gardeners and groundskeepers work with little supervision.

Laborers who demonstrate a willingness to work hard and quickly, have good communication skills, and take an interest in the business may advance to crew leader or other supervisory positions. Advancement or entry into positions as grounds manager or landscape contractor usually requires some formal education beyond high school, and several years of progressively responsible experience.

Prospective grounds managers or landscape contractors should be knowledgeable about turf care, horticulture, ornamental plants, soils, and erosion prevention and irrigation techniques. They must be familiar with all landscaping and grounds maintenance equipment, and know how and when to mix and apply fertilizers and pesticides. Some are responsible for designing and developing installation and maintenance plans for landscapes and proper grounds management. They also estimate and track project costs, and handle personnel issues. Those in managerial positions must also be aware of local or Federal environmental regulations and building codes. Several years of hands-on experience plus a 4-year bachelor's degree, a 2-year associate's degree, or a 1-year vocational-technical degree in grounds management or landscape design or a closely related "green" discipline, usually provide a good background for those who wish to deal with the full range of landscaping responsibilities. Some schools offer cooperative education programs in which students work alternate semesters or quarters for a lawn care or landscape contractor.

Most States require certification for workers who apply pesticides. Certification requirements vary, but usually include passing a test on the proper and safe use and disposal of insecticides, herbicides, and fungicides. Some States require that landscape contractors be licensed.

The Professional Grounds Management Society (PGMS) offers certification to grounds managers who have a combination of 8 years of experience and formal education beyond high school, and pass an examination covering subjects such as equipment management, personnel management, environmental issues, turf care, ornamentals, and circulatory systems. The PGMS also offers certification to groundskeepers who have a high school diploma or equivalent, plus 2 years of experience in the grounds maintenance field.

The Associated Landscape Contractors of America (ALCA) offers the designations, Certified Landscape Professional or Certified Landscape Technician, to those who meet established education and experience standards and pass an ALCA examination. The hands-on test for technicians covers areas such as maintenance equipment operation and the installation of plants by reading a plan. A written safety test is also administered.

Some workers in landscaping, groundskeeping, nursery, greenhouse, and lawn service occupations open their own business after several years of experience.

Job Outlook

Those interested in landscaping, groundskeeping, nursery, greenhouse, and lawn service occupations should find excellent job opportunities in the future. Because of high turnover, a large number of job openings is expected to result from the need to replace workers who transfer to other occupations or leave the labor force. These occupations attract many part-time workers. Some take landscaping, groundskeeping, or nursery jobs to earn money for school or only until they find a better-paying job. Because wages for beginners are low and the work is physically demanding, many employers have difficulty attracting enough workers to fill all openings.

Employment of landscaping, groundskeeping, nursery, greenhouse, and lawn service workers is expected to grow about as fast as the average for all occupations through the year 2008 in response to increasing demand for landscaping, groundskeeping, and related services. Expected growth in the construction of commercial and industrial buildings, shopping malls, homes, highways, and recreational facilities should contribute to demand for these workers. Developers will continue to use landscaping services, both interior and exterior, to attract prospective buyers and tenants.

The upkeep and renovation of existing landscaping and grounds are growing sources of demand for landscaping, groundskeeping, and lawn service workers. Owners of many existing buildings and facilities, including colleges and universities, recognize the importance of curb appeal and are expected to use these services more extensively to maintain and upgrade their properties. In recent years, the large number of

baby boomers, wishing to conserve leisure time by contracting out for basic yard services, spurred employment growth in landscaping and lawn service occupations. Homeowners are expected to continue using such services to maintain the beauty and value of their property. As the “echo” boom generation (children of baby boomers) comes of age, the demand for parks, athletic fields, and recreational facilities also can be expected to add to the demand for landscaping, groundskeeping, and lawn service workers. The need for nursery and greenhouse laborers and managers will grow because of the continued popularity of home gardening, as well as the need to cultivate and provide the vegetation used by landscaping services.

Job opportunities for nonseasonal work are more numerous in regions with temperate climates where landscaping and lawn services are required all year. However, opportunities may vary depending on local economic conditions.

Earnings

Earnings vary widely depending on the particular landscaping position and experience, ranging from the minimum wage in some beginning laborer positions to more than \$20.00 an hour in some manager jobs. The following tabulation presents 1998 median hourly earnings for landscaping, groundskeeping, nursery, greenhouse, and lawn service occupations:

Lawn service managers	\$12.22
Nursery and greenhouse managers	12.19
Pruners	10.61
Sprayers and applicators	10.41
Landscaping and groundskeeping laborers	8.24

Median hourly earnings in the industries employing the largest numbers of landscaping and groundskeeping laborers in 1997 are shown below:

Concrete work	\$10.40
Local government, except education and hospitals	10.00
Real estate operators and lessors	7.70
Landscape and horticultural services	7.70
Miscellaneous amusement and recreation services	7.50

Related Occupations

Landscaping, groundskeeping, nursery, greenhouse, and lawn service workers perform most of their work outdoors and have some knowledge of plants and soils. Others whose jobs may be performed outdoors and are otherwise related are botanists, construction workers, landscape architects, farmers, horticultural workers, tree surgeon helpers, forest conservation workers, and soil conservation technicians.

Sources of Additional Information

For career and certification information, contact:
☛ Associated Landscape Contractors of America, Inc., 150 Elden Street, Suite 270, Herndon, VA 20170.
☛ Professional Grounds Management Society, 120 Cockeysville Rd., Suite 104, Hunt Valley, MD 21030.

Pest Controllers

(O*NET 67008)

Significant Points

- Federal and State laws require licensure through training and examination.
- Because many people do not find pest control work appealing, those with the necessary skills and interests should have favorable job prospects.

Nature of the Work

Roaches, rats, mice, spiders, termites, fleas, ants, and bees—few people welcome them into their homes or offices. Unwanted creatures that infest households, buildings, or surrounding areas are pests that can pose serious risk to human health and safety. It is a pest controller’s job to control them.

Pest controllers locate, identify, destroy, and repel pests. They use their knowledge of pests’ lifestyles and habits, along with an arsenal of pest management techniques—applying chemicals, setting traps, operating equipment, and even modifying structures—to alleviate pest problems.

The best known method of pest control is pesticide application. Pest controllers use two different types of pesticides—general use and restricted use. General use pesticides are the most widely used and are readily available; in diluted concentrations, they are available to the public. Restricted use pesticides are available only to certified professionals for controlling the most severe infestations. Their registration, labeling, and application are regulated by Federal law, interpreted by the Environmental Protection Agency (EPA), because of their potential harm to pest controllers, customers, and the environment.

Pesticides are not pest controllers’ only tool, however. Pest controllers increasingly use a combination of pest management techniques, known as integrated pest management. One method involves using proper sanitation and creating physical barriers, for pests cannot survive without food and will not infest a building if they cannot enter it. Another method involves using baits, some of which destroy the pests and others that prevent them from reproducing. Yet another method involves using mechanical devices, such as traps and tools, that electrocute, freeze, or burn pests.

Integrated pest management is becoming popular for several reasons. First, pesticides can pose environmental and health risks. Second, some pests are becoming more resistant to pesticides in certain situations. Finally, an integrated pest management plan is more effective in the long term than use of a pesticide alone.

Most pest controllers perform duties for one of three positions—pest control technician, applicator, or supervisor. Position titles vary by State, but the hierarchy—based on training and responsibility required—remains consistent.

Pest control service technicians identify problem areas and operate and maintain traps. They assist applicators by carrying supplies, organizing materials, and preparing equipment. In addition, they may make sales presentations on pest control products or services.. Technicians are licensed to apply pesticides only under an applicator’s supervision.

Certified pest control applicators, sometimes called exterminators, perform the same tasks technicians do. But they are also certified to apply all pesticides, both general and restricted use, without supervision and are licensed to supervise and train technicians in pesticide use. Within this group of workers are several subspecialties, including termite exterminators and fumigators.

Termite exterminators are applicators who specialize in controlling termites. They use chemicals and modify structures to eliminate and prevent termites. To treat infested areas, termite exterminators drill holes and cut openings into buildings to access infestations. To prevent further infestation, they modify foundations and dig holes and trenches around buildings. Some termite exterminators even repair structural damage caused by termites.

Fumigators are applicators who control pests using poisonous gases called fumigants. Fumigators pretreat infested buildings by examining, measuring, and sealing the buildings. Then, using cylinders, hoses, and valves, they fill structures with the proper amount and concentration of fumigant. They also monitor the premises during treatment for leaking gas. To prevent accidental fumigant exposure, fumigators padlock doors and post warning signs.

Pest control supervisors, also known as operators, direct service technicians and certified applicators. Supervisors are licensed to apply pesticides, but they usually are more involved in running the business. Supervisors are responsible for ensuring employee adherence to rules and must resolve problems with regulatory officials. Most States